United Nations E/CN.17/1999/6/Add.15

Economic and Social Council

Distr.: General
19 January 1999

Original: English

Commission on Sustainable Development
Seventh session
19–30 April 1999

Progress in the implementation of the Programme of Action for the Sustainable Development of Small Island Developing States

Report of the Secretary-General

Addendum

Sustainable development of air transport in small island developing States*

Contents

		Paragraphs	Page
I.	Introduction	1–3	3
II.	Continued efforts to strengthen transport services and facilities at both the national and local levels, with particular attention to environmental protection, safety and innovative energy efficient and low-cost transport solutions	4–14	3
III.	Fostering increased cooperation at the regional level, including exploring possibilities for the consolidation of national airline services	15–20	4
IV.	Improving access to financial and technical resources in support of regional organizations that are coordinating and advising small island developing States in the field of transport	21–24	6

* The present report was prepared by the International Civil Aviation Organization, in accordance with arrangements agreed to by the Inter-Agency Committee on Sustainable Development. It is an update of E/CN.17/1996/20/Add.5 and the result of consultation and information exchange between United Nations agencies, interested government agencies and a range of other institutions and individuals.

99-01375 (E) 080299

V. Promoting research and development in transportation relevant to the sustainable development of small island developing States 25 6

VI. Actions aimed at addressing quarantine problems at the national, regional and international levels 26 7

I. Introduction

1. The Programme of Action for the Sustainable Development of Small Island Developing States,[1] in chapter XII, groups air transport together with other transport modes (primarily shipping) and with communications. Insofar as they relate to air transport, the sections relating to action at the national, regional and international levels call for:

(a) Continued efforts to strengthen transport services and facilities at both the national and local levels, with particular attention to environmental protection, safety and innovative energy efficient and low-cost transport solutions;

(b) Fostering increased cooperation at the regional level, including exploring possibilities for the consolidation of national airline services;

(c) Improving access to financial and technical resources in support of regional organizations that are coordinating and advising small island developing States in the field of transport;

(d) Promoting research and development in transportation relevant to the sustainable development of small island developing States;

(e) Actions aimed at addressing quarantine problems at the national, regional and international levels.

2. Each of these actions is considered separately below, following the same format as the comprehensive report (progress achieved, success stories etc.).

3. The present report builds on the report submitted to the Commission at its fourth session, in 1996 (E/CN.17/1996/20/Add.5), which included background information on air transport that still remains relevant. In retrospect, more information could have been provided in 1996 on relevant developments concerning airports and route facilities, and the present report takes that into account. The present report also reiterates many of the recommendations made in 1996.

II. Continued efforts to strengthen transport services and facilities at both the national and local levels, with particular attention to environmental protection, safety and innovative energy efficient and low-cost transport solutions

Progress achieved

4. Extension works, modernization and enlargement of airports and air navigation facilities are a common feature in many small island developing States, especially in countries where tourism makes a substantial contribution to the economy.

Success stories

5. Airport extension projects that have been completed during recent years or are under way include passenger terminal extensions in Antigua and Barbuda, Barbados, Mauritius, Micronesia (Pohnpei), Saint Kitts and Nevis (both islands), Saint Lucia (Castries) and Seychelles (Mahé); and new passenger terminals in Palau (Koror), Sao Tome, and Principe (Sao Tome), and Trinidad and Tobago (Port-of-Spain).

Constraints/emerging problems

6. Low traffic volumes, especially in countries where tourism activities are not well developed, are an impediment to the financial viability of the provision of airport and air navigation services. Expectations from local governments that airports and air navigation services be self-supporting and no longer be a drain on public finance, as they have been until recently, are difficult to satisfy when revenues accrued from user charges are not sufficient due to low traffic volumes. In addition, lack of proper accounting and cost identification are major problems for achieving efficient cost recovery.

7. Low traffic volumes are also one of the principal reasons why there appears to be no significant progress in developing innovative energy efficient and low-cost transport solutions of direct relevance to small island developing States.

8. There are also significant financial constraints on efforts to strengthen airline services. Most small island developing States have a national airline or share in one (e.g., BWIA and LIAT in the Eastern Caribbean). However, the prohibitively high cost of modern airline equipment for most of their airlines (and indeed for Governments that may provide loan guarantees, for example) acts as a brake on market route development. Solutions lie in the areas of leasing rather than purchasing equipment, airline cooperation (including codesharing) and joint ventures.

9. For small island developing States with their limited resources, thin traffic routes and limited access to major markets, the future of air transport brings special problems and challenges. The trends of globalization, liberalization and privatization in air transport (as in all other economic activities) hamper their ability to participate effectively, in particular to maintain viable national airlines. In facing a competitive commercial and operating environment, difficult choices will need to be made and greater attention by these States to the value of cooperation should be a central tenet of their responses.

Priorities for the next five years

10. In air transport, safety is of fundamental importance. Given the international nature of air transport, standardization is needed worldwide. States have achieved this through the creation of specifications known as International Standards and Recommended Practices (SARPs), as annexes to the Convention on International Civil Aviation. A standard is a specification, the uniform application of which is necessary for the safety or regularity of international civil air navigation, while a recommended practice is one agreed to be desirable but not essential. However, many small island developing States have not indicated their compliance with or differences from these provisions, as article 38 of the Convention requires. Consequently, the number one priority for these States should be to determine their positions on those provisions and to inform the International Civil Aviation Organization (ICAO) accordingly as soon as possible.

11. Small island developing States should also familiarize themselves with current technological developments of relevance to air transport, such as communications, navigation, surveillance/air traffic management (CNS/ATM) systems implementation and the ICAO flight safety programme, with a view to ensuring active participation on an individual or subregional basis in global programmes related to these developments. Small island developing States may obtain guidance from ICAO in the formulation of projects, location of donors for the funding of such projects and implementation of projects.

12. Wherever possible, human resources development should be introduced in such areas as air traffic control, airport management, aviation security, flight operations and airworthiness, air transport regulation and air law.

13. Small island developing States should participate more actively in the ICAO statistics programme, which provides data on air transport that would be of value to those countries in their future planning. To that end, small island developing States should ensure that their international airlines file with ICAO their traffic reports, cost statistics and financial statements, as required by the Convention on International Civil Aviation (article 67).

Recommendations for the Commission's programme of work

14. The Commission may wish to consider how funds could be raised to sponsor studies to investigate the feasibility of developing innovative energy efficient and low-cost transport solutions that would be of benefit to small island developing States.

III. Fostering increased cooperation at the regional level, including exploring possibilities for consolidation of national airline services

Progress achieved/success stories

15. Cooperation among groups of small island developing States is beginning to take shape at both the intergovernmental and airline levels. In the Pacific, broad cooperation on both fronts is being fostered from a political angle by the Pacific Forum (which also includes other States in its membership). However, airline cooperation is embryonic within this group of States, although there are a few instances of codesharing, joint leasing etc.; most codeshares are between island national airlines and nearby developed country airlines having intercontinental networks. In the Caribbean, a major initiative in 1996, promoted by the Caribbean Community (CARICOM), saw the adoption of a regional market access agreement to improve services and

encourage airline investment within the region — the Caribbean Community Air Services Agreement — which may be considered a success in that it is the culmination of long-standing objectives for cooperation among Caribbean States. However, whether or not the Agreement itself is a success can only be determined when it comes into force and its effects can be measured through actual market developments. In addition, there are the beginnings of airline cooperation between Air Jamaica and BWIA, although the nature of that cooperation remains limited. Again, most cooperation by the Caribbean carriers is with larger outside airlines.

16. With regard to the provision of air navigation services for upper or lower airspace, there are several examples of regional cooperation in the Caribbean due to the proximity of the different islands. The Piarco Flight Information Region based in Trinidad and Tobago is one of these successful examples. Within this framework, the use of ground positioning system satellite information for approach at airports is also contemplated. In the same region, other examples of cooperation can be found in a common civil aviation authority for the Organization of Eastern Caribbean States, which, among other activities, has a safety oversight programme, and in the field of aeronautical communications provided by Inter-Caribbean Aeronautical Communications. In the Pacific region, where the same type of cooperation also exists for flight information regions, plans are under way for a cooperative approach by Pacific Forum States in a unified air traffic management system for the whole Pacific airspace.

Constraints/emerging problems

17. Insufficient political will to agree on and to implement cooperative ventures and the national wish to maintain a flag carrier are usually the main factors impeding efforts to increase cooperation. Furthermore, competition among islands (particularly in the Caribbean) as tourism destinations is generally at the expense of cooperation with regard to air services or among airlines.

18. Another major problem lies in the recovery of air navigation services charges. Airspace over small islands can be either very small, for example in the Caribbean, or on the contrary very large, for example in the Pacific or the Indian Ocean. But in both cases, the countries involved have difficulties recovering from users (i.e., air carriers) charges that they are entitled to collect for the provision of en route air navigation services. Solutions recommended by ICAO to address this problem include the creation of international cooperative ventures, such as international operating agencies or joint collecting agencies. The former are separate entities that have been assigned the task of providing air navigation services within defined areas on behalf of sovereign States; they also are responsible for the operation of the charge collection system for the services provided. The latter are also very effective, although less encompassing, in the operation of multinational charges collection agencies. They have the advantage of saving countries the burden of considerable accounting work and of being much more efficient at a lower cost.

Priorities for the next five years

19. There is a need for greater cooperation and collaboration among countries concerning the implementation of CNS/ATM systems, given the capacity of major CNS/ATM systems components and the high costs of their implementation and operation. A possibility would be to establish one-to-one relationships between developing countries and experts dealing with trials and demonstrations in developed countries. The development and provision of services by an external supplier who then departs leaving the country bereft of all technical knowledge is not acceptable.

Recommendations for the Commission's Programme of Work

20. It is recommended that regional projects be formulated for the evaluation and creation of air transport master plans for the following three groupings of small island developing States: Caribbean small island developing States; Pacific small island developing States; and West African coast and Indian Ocean small island developing States. These projects would cover all the action items identified in the Programme of Action, and would seek to address the air transport challenges facing these groupings of small island developing States, such as, in order of priority:

(a) Ensuring compliance with SARPs and implementation of measures related to the ICAO flight safety programme;

(b) The availability of aviation management skills and of suitably trained manpower, and associated training requirements;

(c) The impact on small island developing States of technological changes taking place (CNS/ATM etc.);

(d) Difficulties experienced in obtaining funding for aviation projects;

(e) Problems associated with distance and isolation (such as relatively high transport costs, including both fuel and insurance);

(f) The impact on small island developing States of changes taking place in the economic regulation of air transport, including exploring the scope for more regional cooperation with regard to the regulatory aspects of air transport, such as joint negotiation of air transport agreements;

(g) The impact on small island developing States of commercial changes taking place in the air transport industry, including exploring the scope for greater cooperation (both commercial and technical) between airlines within the small island developing States grouping concerned and with other international airlines;

(h) Finding possible strategies for dealing with potential conflicts between small island developing States air transport policies and their tourism policies;

(i) The availability of reliable communications.

IV. Improving access to financial and technical resources in support of regional organizations that are coordinating and advising small island developing States in the field of transport

Progress achieved

21. The following are all important prerequisites for obtaining financing and successful cost recovery for air navigation services:

(a) Recognition of international cost recovery policy for air navigation services;

(b) Existence of an effective cost and revenue accounting system;

(c) A sound methodology for determining the cost basis for charges;

(d) An effective mechanism for the collection of charges.

22. The meeting of these prerequisites will be considerably facilitated where air navigation services are provided by means of organizational structures ensuring financing and operational autonomy. The trend towards such autonomy has been a principal factor in the improvement over recent years in the financial situation of air navigation services and airports. In that respect, it must be noted that autonomy can take many forms and does not necessarily mean privatization since ownership can rest in public or private hands or a combination of both.

Constraints

23. Where autonomous bodies have not been introduced, the benefits that normally accrue with them, such as the introduction of corporate or commercial-type management as opposed to direct government administration, cannot be achieved and the burden placed on public finance remains heavy.

Priorities for the next five years

24. The financial strength of the various small island developing State entities in charge of providing air navigation services may differ, and so may the ability of each to secure financing as well as to negotiate favourable terms. On the other hand, air navigation services have an international or multinational dimension. There is no doubt that the backing of a collectivity of the States concerned would facilitate the obtaining by an international joint venture of financing at favourable terms. Such a grouping of forces would be particularly effective on a regional scale with regard to CNS/ATM systems implementation.

V. Promoting research and development in transportation relevant to the sustainable development of small island developing States

Priorities for the next five years

25. ICAO encourages States in their research and development effort. It is recognized, however, that in many small island developing States a lack of technical experience and adequate funding are reasons why such States find it

difficult to participate in CNS/ATM research and development. However, it is acknowledged that although developed States do implement the necessary research and development, often in relation to their own needs, the flow-on benefits of the finished article to developing States are immense. It is important that mechanisms exist to permit the transfer of knowledge to those States. The globalization of CNS/ATM dictates that small island developing States can play an effective part in the provision of safe and efficient air traffic services even though they may not participate fully in initial research and development projects. As small island developing States enter the twenty-first century, it is most important that they have an awareness of the progress of satellite utilization and other modes of technology, so that when they need to make the necessary changes to their own services, they are able to make informed decisions.

VI. Actions aimed at addressing quarantine problems at the national, regional and international levels

Priorities for the next five years

26. Most small island developing States adopt "in quarantine" measures as defined by the World Health Organization to prevent the spread of disease — notably yellow fever — carried by reservoirs of disease or vectors of diseases. Some States also require the disinsecting of aircraft to ensure that this objective is achieved, and that the area within the airport perimeter be kept free of mosquito vectors of malaria and other diseases. However, very few small island developing States have indicated to ICAO their compliance with or differences from annex 9 (Facilitation) to the Convention on International Civil Aviation, which contains several provisions on the disinsecting of aircraft and quarantine measures, making it difficult to determine the extent to which health regulations are applied to air transport in those States. Consequently, a priority for small island developing States should be to determine their positions on those provisions and, as article 38 of the Convention requires, to inform ICAO accordingly.

Notes

[1] *Report of the Global Conference on the Sustainable Development of Small Island Developing States, Bridgetown, Barbados, 25 April–6 May 1994* (United Nations publication, Sales No. E.94.I.18 and corrigenda), chap. I, resolution 1, annex II.

United Nations E/CN.17/1999/6/Add.16

Economic and Social Council

Distr.: General
6 January 1999

Original: English

Commission on Sustainable Development
Seventh session
19–30 April 1999

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Maritime transport in small island developing States*

Contents

		Paragraphs	Page
I.	Role of shipping in sustainable development for small island developing States	1–4	2
II.	Overview of the current situation in shipping	5–13	5
	A. International trade of small island developing States	6–8	5
	B. Small island developing States merchant fleet	9–12	6
	C. Shipping industry changes	13	10
III.	Recommendations	14	10

* The present report was prepared by the United Nations Conference on Trade and Development. It is a concise update of document E/CN.17/1996/20/Add.4 and the result of consultation and information exchange between United Nations agencies, interested government agencies and a range of other institutions and individuals.

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I. Role of shipping in sustainable development for small island developing States

1. Economic development, trade and maritime transport are inextricably linked. This is particularly evident with developing countries because exports are growing faster than gross domestic product (GDP). For example, exports of goods and services expressed as a share of GDP increased from 13 per cent in 1970 to 28 per cent in 1995. Accompanying this expansion of exports was a corresponding annual average growth in real GDP. Between 1970 and 1995, economies of developing countries as a group grew at an average annual rate of 4.3 per cent. For the low-income group, the annual average growth in real GDP was 5.5 per cent, and that of the high-income group 4.1 per cent.[1]

2. Efficient maritime transport and port infrastructure are essential for the expansion of foreign trade. This is particularly important for those small island developing States that are geographically and economically disadvantaged. Such handicaps are manifested in high distribution costs, lack of reliable shipping services, expensive trans-shipment charges, inadequate port facilities, limited maritime administration and diseconomies of scale when freight rates are negotiated with shipping conferences. For example, estimates of total freight costs for small island developing States in 1993 were more than 55 per cent higher than those for developed market-economy countries in the same year and more than 66 per cent higher in 1996. Table 1 provides a comparison of small island developing States with other country groups and indicates the large disparities among small island developing States. Moreover, most small, remote islands incur even higher freight costs as a percentage of import value; the proportions range from 12 to 18 per cent, and are almost double those of other developing countries as a group and nearly three times those of developed countries.

3. The work of the United Nations Conference on Trade and Development (UNCTAD) in the field of transportation, including maritime transport, is based on the Midrand Declaration,[2] adopted at the ninth session of UNCTAD, held in South Africa in 1996. Research and technical cooperation are geared towards trade-related aspects of maritime transport thus improving the quality of trade-related services and the ability of small island developing States to participate effectively in world trade. Research, technical cooperation and human resource development activities are complementary parts of an integrated approach to transport problem-solving. Research provides new insights into methods of tackling development problems. Of particular significance in this context is the *Review of Maritime Transport*, an annual publication of UNCTAD analysing short- and medium-term trends in world seaborne trade and shipping. The 1997 issue of the *Review*[3] specifically dealt with maritime transport problems of small island developing States, their participation in world shipping and their position as consumers of maritime transport services. The results of this research can be disseminated through training programmes to policy makers, administrators and the private sector in developing countries. Technical cooperation provides the means for follow-up assistance, to be made available to developing countries at their request. At the same time, the information and ideas that technical cooperation experts communicate from the field enable members of the secretariat to better understand the needs of developing countries and how the work of the secretariat can be oriented to help meet such needs; thus technical cooperation becomes an important source of ideas for research and policy development.

Table 1

Estimates of total freight costs of total import value, 1993 and 1996 a/

(Millions of US dollars)

Country	Estimate of total freight costs of imports		Value of imports (cif)		Freight costs as percentage of import value	
	1993	1996	1993	1996	1993	1996
Africa						
Sao Tome and Principe	3.90	7.28	22	41	17.76	17.76
Cape Verde	24.54	44.20	191	344	12.85	12.85
Comoros	7.20	21.58	56	168	12.84	12.85
Mauritius	217.80	278.48	1 715	2 193	12.70	12.70
Réunion	383.41	284.95	3 633	2 700	10.55	10.55
Seychelles	24.30	43.55	189	339	12.84	12.85
	661.15	**680.04**	**5 806**	**5 785**	**11.39**	**11.76**
Asia						
Maldives	16.60	37.79	185	422	8.95	8.95
Singapore	4 751.90	7 332.08	85 234	131 506	5.58	5.58
Bahrain	376.40	434.47	3 825	4 451	9.84	9.76
Cyprus	236.20	363.22	2 590	3 984	9.12	9.12
	5 381.10	**8 167.56**	**91 834**	**140 363**	**5.86**	**5.82**
Europe						
Malta	213.80	275.85	2 173	2 803	9.84	9.84
Caribbean and North America						
Antigua and Barbuda	21.90	28.74	245	321	8.95	8.95
Bahamas	207.50	220.40	3 500	3 720	5.93	5.92
Barbados	51.40	63.58	574	710	8.95	8.95
Bermuda	52.74	57.22	589	639	8.95	8.95
Dominica	10.30	20.69	115	231	8.95	8.95
Dominican Republic	312.90	809.41	2 436	6 300	12.84	12.85
Grenada	12.40	10.83	120	105	10.31	10.32
Guadeloupe	309.63	489.25	2 410	3 808	12.85	12.85
Haiti	52.70	112.16	410	873	12.84	12.85
Jamaica	252.00	327.68	2 097	2 726	12.02	12.02
Martinique	209.55	258.37	1 631	2 011	12.85	12.85
Saint Kitts and Nevis	8.90	14.95	100	167	8.95	8.95
Saint Lucia	28.60	19.79	320	221	8.95	8.95
St. Pierre and Miquelon	4.20	5.17	43	53	9.76	9.76
Saint Vincent and the Grenadines	8.24	15.94	92	178	8.95	8.95
Trinidad and Tobago	142.50	177.83	1 448	1 807	9.84	9.84
	1685.46	**2632.01**	**16 130**	**23 870**	**10.45**	**11.03**

Country	Estimate of total freight costs of imports		Value of imports (cif)		Freight costs as percentage of import value	
Oceania						
American Samoa	6.54	5.19	73	58	8.95	8.95
Fiji	66.23	113.04	720	885	9.20	12.77
French Polynesia	88.43	98.10	731	811	12.10	12.10
Guam	46.57	56.01	385	463	12.10	12.10
Kiribati	1.50	9.66	15	99	9.76	9.76
Nauru	12.00	2.33	134	26	8.95	8.95
New Caledonia	111.77	120.72	924	998	12.10	12.10
Papua New Guinea	166.80	215.33	1 299	1 676	12.84	12.85
Solomon Islands	16.60	26.43	101	161	16.42	16.42
Tonga	4.96	5.94	61	73	8.14	8.13
Vanuatu	9.70	19.48	80	161	12.10	12.10
Western Samoa	9.30	15.44	105	174	8.87	8.87
	540.40	**687.67**	**4 628**	**5 585**	**11.68**	**12.31**
Subtotal SIDS	**8 481.9**	**12 443.1**	**120 571**	**178 406**	**7.03**	**6.97**
World total	**201 385**	**259 940**	**3 601 481**	**4 954 040**	**5.59**	**5.25**
Developed market-economy countries	**118 043**	**151 145**	**2 600 770**	**3 604 494**	**4.54**	**4.19**
Developing countries - total	**83 342**	**108 795**	**1 000 711**	**1 349 546**	**8.33**	**8.06**
of which in:						
Africa	**9 837**	**12 073**	**88 979**	**105 821**	**11.06**	**11.41**
America	**15 098**	**21 929**	**189 094**	**309 560**	**7.98**	**7.08**
Asia b/	**56 951**	**72 263**	**707 430**	**906 714**	**8.05**	**7.97**
Europe	**934**	**1 842**	**10 940**	**21 866**	**8.54**	**8.42**
Oceania	**522**	**688**	**4 268**	**5 585**	**12.23**	**12.32**

Source: Compiled by the UNCTAD secretariat on the basis of International Monetary Fund (IMF) cost, insurance and freight/free on board (cif/fob) factors and UNCTAD *Handbook of International Trade and Development Statistics*.

[a] Estimates for the world and country groups are not complete, since data only for countries members of IMF are included.

[b] 1993 figures including those of some countries in Oceania.

4. An example of a technical assistance programme that combines elements of assistance in both policy formulation and training is a recently concluded pilot project on assisting private participation. After a first implementation in Thailand, a project of this nature has now begun in Indonesia; the intention is to extend similar activities at a later stage to small island developing States. In fact, even though Indonesia does not figure among the small island developing States, a number of maritime transport problems encountered by this country, particularly in inter-island transport, are similar to those experienced by small island countries of the region. In the course of these projects, UNCTAD assists the beneficiaries in designing policy frameworks conducive to the development of the maritime sector and conducts training seminars for transport operators to assist them in providing efficient transport services, and for transport users to enable them to make the best use of the available low-cost transport services.

II. Overview of the current situation in shipping

5. The present section of the present report includes an update of small island developing States international trade and the characteristics of the small island developing States merchant fleet. The maritime transportation issues continue to be quite different, however, for the various small island developing States. The group is significantly diverse in geographical location, natural endowments and stages of economic development. It is evident that maritime markets and maritime issues in a country such as Singapore, with its excellent geographical location, the second largest container throughput in the world,[3] a highly competitive shipping industry and a per capita GDP of almost $25,000,[4] are very different from those of most other small island developing States. For example, per capita income for developing countries in Oceania ranges from a low of $543 (Kiribati) to a high of $2,640 (Fiji),[4] and a noticeable involvement is lacking in the ocean carriage of their foreign trade.

A. International trade of small island developing States

6. During the period 1985–1995 the growth of exports of small island developing States with a population of under 5 million remained globally stable in nominal terms (about 5 per cent per annum). Meanwhile, the growth of imports of the same group of small island developing States slowed down significantly in nominal terms (from an average 8.3 per cent per annum in 1985–1990 to 3.8 per cent in 1990–1995) as a result of the slightly slower GDP growth performance of these countries in the first half of the 1990s.

7. Developed country destinations account on average for two thirds of the total value of small island developing States exports, while developing countries account for the balance. Only in very few small island developing States (for example, Seychelles and Tuvalu) did merchandise exports to other developing countries exceed exports to developed countries in 1995. In that year, an estimated two thirds of small island developing States exported more merchandise to countries of the European Union (EU) than to any other region of developed countries, while the remaining third comprised in equal parts small island developing States exporting more merchandise to Northern and Central America, and those exporting more to Japan. Island countries that have demonstrated a particularly strong increase in the European share of their merchandise export destinations include Barbados, Cape Verde, the Comoros and Maldives, while Dominica and Sao Tome and Principe are

among the small island developing States that have recorded noticeable increases in the Northern American and Central American shares of their total merchandise exports.

8. The origin of small island developing States imports is predominantly the developed countries, with an overall proportion slightly greater in 1995 (68.5 per cent) than 10 years earlier (64.8 per cent). For almost half of small island developing States, EU was in 1995 a larger source of merchandise imports than any other region of developed countries, while the other small island developing States, in equal parts, were importing more from either Northern and Central America, or Japan. Small island developing States for which the Northern and Central American source of imports increased significantly between 1985 and 1995 include Jamaica and Trinidad and Tobago, while Barbados is among countries that increased their imports from Europe during the same period.

B. Small island developing States merchant fleet

9. The impact of open-registry fleets creates a statistical bias in the analysis of the fleet capabilities of the small island developing States group. Open registries are legal mechanisms used to draw merchant tonnage from countries with more stringent safety regulations and higher operating costs to countries offering more flexibility in operation and taxation and lower registration fees. The benefits for the open-registry countries are additional tax revenues and employment opportunities when ship management companies are established within the country. The main benefits, however, remain with the nationals of the true owners because the share of tonnage owned by open-registry nationals continues to be minimal.

10. Within the small island developing States group, open-registry tonnage represents 82.1 per cent of the total. Thus, a more accurate analysis of the small island developing States fleets should focus on the remaining — beneficially owned — tonnage of 30.5 million deadweight tons. The composition of this fleet is summarized in table 2 and indicates a concentration of registered tonnage in Singapore, Antigua and Barbuda, Saint Vincent and the Grenadines, and Barbados. These four represent 96 per cent of the total small island developing States fleet, excluding the main open-registry countries. This high percentage is partly explained by the recording system[5] which includes vessels of 100 gross registered tons and over. Thus, many of the smaller ships are not included in the global data bank maintained by Lloyd's Maritime Information Services (London). Nevertheless, a large number of vessels of less than 100 gross registered tons continue to be operated in many small island developing States.

11. The age of the small island developing States fleets is the second qualitative factor. Table 3 gives an indication of the unfavourable age distribution of fleets of small island developing States as compared with other country groups. The apparent economic and technical obsolescence of a major part of the fleet is necessarily reflected in higher operating costs, as repair and maintenance rapidly increase with age, schedule delays and unreliability, and greater environmental risks associated with obsolete vessels. In brief, the small island developing States fleet is ageing and needs to be replaced.

Table 2

Merchant fleets of small island developing States by flag of registration, [a] groups of countries and types of ship [b] as at 31 December 1997

(In deadweight tons)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Africa						
Sao Tome and Principe	2 492	..	..	1 285	..	1 207
Cape Verde	26689	1525	..	13 019	7 954	4 191
Comoros	2 138	..	..	1 474	..	664
Mauritius	363 251	84 464	5 137	133 388	130 915	9 347
Réunion	-	-	-	-	-	-
Seychelles	4 079	..	..	3 278	..	801
Subtotal Africa	398 649	85 989	5 137	152 444	138 869	16 210
Asia						
Maldives	145 236	12 679	..	124 882	..	7 675
Singapore	29 537 419	13 894 128	8 012 579	2 699 573	3 379 025	1 552 114
Bahrain	276 725	98 512	44 110	98 348	..	35 755
Cyprus	36 994 017	6 685 656	20 232 826	6 638 150	2 462 572	974 813
Subtotal Asia	66 953 397	20 690 975	28 289 515	9 560 953	5 841 597	2 570 357
Europe						
Malta	38 006 551	16 665 836	14 818 464	4 873 379	735 435	913 437
Caribbean and North America						
Antigua and Barbuda	2 916 330	6 253	294 531	1 490 545	1 088 884	36 117
Bahamas	39 287 545	20 449 958	8 266 669	7 356 651	959 292	2 254 975
Barbados	1 427 315	639 650	402 493	321 660	..	63 512
Bermuda	7 392 210	4 142 034	1 943 287	226 279	547 695	532 915
Dominica	3 076	..	..	2 531	..	545
Dominican Republic	10 243	1 635	..	7 549	..	1 059
Grenada	950	..	..	950	..	..
Guadeloupe	-	-	-	-	-	-
Haiti	963	..	..	793	..	170
Jamaica	6 112	3 065	..	2 813	..	234
Martinique	-	-	-	-	-	-
Saint Kitts and Nevis	550	..	..	550	..	..
Saint Lucia	..	..	..	..	..	..
St Pierre and Miquelon	-	-	-	-	-	-
Saint Vincent and the Grenadines	12 385 105	1 959 336	5 542 384	4 109 794	149 292	624 299
Trinidad and Tobago	8 780	..	..	3 731	..	5 049
Subtotal Caribbean and North America	63 439 179	27 201 931	16 449 364	13 523 846	2 745 163	3 518 875

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Oceania						
American Samoa	-	-	-	-	-	-
Fiji	29 542	3 605	..	10 940	..	14 997
French Polynesia	-	-	-	-	-	-
Guam	-	-	-	-	-	-
Kiribati	7 054	3 048	..	3 352	..	654
Nauru	..	..	..	..	..	..
New Caledonia	-	-	-	-	-	-
Papua New Guinea	66 221	4 380	..	50 878	..	10 963
Solomon Islands	6 775	..	..	3 155	..	3 620
Tonga	15 471	..	..	11 319	..	4 152
Vanuatu	1 846 875	21 502	1 034 371	386 846	..	404 156
Western Samoa	6 441	..	..	6 066	..	375
Subtotal Oceania	1 978 379	32 535	1 034 371	472 556	..	438 917
TOTAL SIDS	170 776 155	64 677 266	60 596 851	28 583 178	9 461 064	7 457 796
Percentage of total	100.0	37.9	35.5	16.7	5.5	4.4

Source: Lloyd's Maritime Information Services (London).

Note: Two dots (..) indicate that the number is nil or negligible. A hyphen (-) indicates that data are not available.

[a] The designations employed and the presentation of material in this table refer to flags of registration and do not imply the expression of any opinion by the Secretariat of the United Nations concerning the legal status of any country or territory, or of its authorities, or concerning the delimitation of its frontiers.

[b] Ships of 100 gross registered tons and over.

[c] Including passenger/cargo.

Table 3

Age distribution of the world merchant fleet by types of vessel, as at 31 December 1995

(Percentage of total in terms of deadweight tons)

Country grouping	Types of vessel	Total	0-4 years	5-9 years	10-14 years	15 years and over	Average age (years) a/	Average age (years) 1994 a/
World total	All ships	100	15.6	14	18.2	52.2	14.96	15.00
	Tankers	100	20.9	12.6	9.6	56.9	14.97	15.35
	Bulk carriers	100	12.3	15.5	25.9	46.3	14.63	14.58
	General cargo	100	7.4	10.2	19.8	62.6	17.01	16.61
	Containerships	100	26	19	17.5	37.5	12.20	12.03
	All others	100	13.2	16.4	21	49.4	14.80	14.41
Developed market-economy countries	All ships	100	15.5	14.7	20.1	49.7	14.69	14.75
	Tankers	100	16.8	10.4	11.6	61.2	15.92	16.29
	Bulk carriers	100	11.8	17.3	29.6	41.3	14.09	14.04
	General cargo	100	12.9	14.8	23.2	49.1	14.88	14.42
	Containerships	100	25.9	19.1	15.7	39.3	12.39	11.71
	All others	100	16.4	18.9	21.4	43.3	13.75	13.38
Major open-registry countries	All ships	100	16.7	11.7	14.5	57.1	15.46	15.81
	Tankers	100	26.5	11.2	6.5	55.8	14.37	15.28
	Bulk carriers	100	7.1	10.8	21.9	60.2	16.77	16.76
	General cargo	100	5.7	12.2	19.8	62.3	17.05	16.84
	Containerships	100	32.1	15.2	19.6	33.1	11.34	11.78
	All others	100	12.1	20.00	15.10	52.80	15.07	14.46
Developing countries (excluding open-registry countries)	All ships	100	13.8	18.00	23.20	45.00	14.22	14.31
	Tankers	100	17.1	16.1	14.5	52.3	14.72	15.50
	Bulk carriers	100	15.8	25.3	33.2	25.7	11.73	11.78
	General cargo	100	2.8	6.4	16.4	74.4	18.84	18.20
	Containerships	100	21.4	21.5	14.7	42.4	13.03	11.18
	All others	100	11.6	11.9	26.9	49.6	15.21	15.06
Small island developing States	All ships	100	4.45	5.44	19.62	70.50	18.33	
	Tankers	100	7.63	4.44	18.88	69.05	17.92	
	Bulk carriers	100	3.70	2.46	37.55	56.29	17.14	
	General cargo	100	3.08	6.89	13.60	76.43	18.99	
	Containerships	100	17.43	23.46	14.50	44.61	13.55	
	All others	100	2.57	3.54	30.92	62.97	17.86	

Source: Compiled on the basis of data supplied by Lloyd's Maritime Information Services (London).

[a] To calculate average age, it has been assumed that the ages of vessels are distributed evenly between the lower and upper limit of each age group. For the 15-years-and-over age group, the mid-point has been assumed to be 22 years.

12. Another conclusion from the fleet ownership/vessel type data is that the small island developing States need to increase their capabilities for serving their own trade. Most of the existing fleet (82.1 per cent) are registered in small island developing States offering open-registry facilities and are thus not responding to the needs of the foreign trade of the country concerned. While this focus provides foreign exchange earnings, employment for seafarers and diversification, it is not fully complementary to the trading requirements of small island developing States because most manufactured goods move by container or general cargo ships. The former represented only 5.5 per cent and the latter 16.7 per cent of the small island developing States fleet in 1997. If the vessels registered in Antigua and Barbuda, the Bahamas, Bermuda, Cyprus, Malta, Saint Vincent and the Grenadines, Singapore and Vanuatu are excluded, the small island developing States fleet of these two essential ship types (container and general cargo ships) is a minimal one.

C. Shipping industry changes

13. Restructuring trends and in particular the move towards globalization in the international liner shipping industry constitute another factor affecting the transportation capabilities of many small island developing States. Over the last decade, commercial cooperation agreements between large containership operators and a growing number of takeovers have resulted in a concentration of services. This has created economies of scale and encourages the expansion of hub-and-spoke service patterns between major trading areas. For small island developing States, however, the impact has been in terms of increasing the need for trans-shipment services, acquiring vessels with container lifting capabilities, investing in electronic data interchange technology and training management personnel. Without these infrastructure investments (mainly ships and port facilities), the ability of many small island developing States to generate income from shipping services will be marginal.

III. Recommendations

14. The recommendations contained in document E/CN.17/1996/20/Add.4 continue to be valid and represent minimum conditions that should be fulfilled if small island developing States are to be provided with transport services necessary for balanced structural development as well as improved participation in world trade. More investment is required in infrastructure, ships and manpower. It is also necessary to upgrade legal and political frameworks and to align operational systems with international practice. In order to ensure the creation of the necessary framework conducive to foreign investment and to private sector participation in maritime transport, it is essential to harmonize regulatory instruments at least at the regional level, and to exploit existing opportunities for cooperation which could enable both local and foreign operators to access maritime markets more easily and ensure the competitiveness of small island developing States operators. International organizations should continue to provide assistance to small island developing States in these areas. Particular support should be given to regional efforts aimed at improving regional maritime transportation.

Notes

[1] UNCTAD, *Handbook of International Trade and Development Statistics*, 1995 (United Nations publication, Sales No. E/F.97.II.D.7), tables 6.2 and 6.3.

[2] See *Proceedings of the United Nations Conference on Trade and Development, Ninth Session, Midrand, Republic of South Africa, 27 April–11 May 1996, Report and Annexes* (United Nations publication, Sales No. E.97.II.D.4), part one, sect. A.

[3] UNCTAD, *Review of Maritime Transport*, 1997 (United Nations publication, Sales No. E.97.II.D.9).

[4] UNCTAD, *Handbook of International Trade and Development Statistics*, 1995 (United Nations publication, Sales No. E/F.97.II.D.7), table 6.1.

[5] Lloyd's Maritime Information Services (London).